



NOTICES OF FINAL RULEMAKING

This section of the *Arizona Administrative Register* contains Notices of Final Rulemaking. Final rules have been through the regular rulemaking process as defined in the Administrative Procedures Act. These rules were either approved by the Governor's Regulatory Review Council or the Attorney General's Office. Certificates of Approval are on file with the Office.

The final published notice includes a preamble and

text of the rules as filed by the agency. Economic Impact Statements are not published.

The Office of the Secretary of State is the filing office and publisher of these rules. Questions about the interpretation of the final rules should be addressed to the agency that promulgated them. Refer to Item #5 to contact the person charged with the rulemaking. The codified version of these rules will be published in the *Arizona Administrative Code*.

NOTICE OF FINAL RULEMAKING

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 2. DEPARTMENT OF ENVIRONMENTAL QUALITY AIR POLLUTION CONTROL

[R15-29]

PREAMBLE

1. **Article, Part, or Section Affected (as applicable)**

R18-2-701	Amend
R18-2-733	Repeal
R18-2-733.01	Repeal
R18-2-734	Amend
2. **The statutory authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):**

Authorizing Statutes: A.R.S. §§ 49-104(A)(1) and (A)(10)
Implementing Statutes: A.R.S. §§ 49-422(B), 42-425(A)
3. **The effective date of the rules:**

June 30, 2015
4. **A list of all previous notices appearing in the Register addressing the rules:**

Notice of Rulemaking Docket Opening: 20 A.A.R. 2527, September 12, 2014
Notice of Proposed Rulemaking: 20 A.A.R. 2487, September 12, 2014
5. **The name and address of agency personnel with whom persons may communicate regarding the rulemaking:**

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6. **An agency's justification and reason why a rule should be made, amended, repealed or renumbered, to include an explanation about the rulemaking:**

Summary. These amendments to the state standards for emissions of mercury by coal-fired electric utility steam generating units (EGUs) in R18-2-733, R18-2-733.01 and R18-2-734 (the "Arizona Mercury Rule") revise those rules to reflect EPA's repeal of its cap-and-trade program for mercury emissions and adoption of maximum achievable control technology (MACT) standards. Specifically, the amendments (i) repeal provisions of the Arizona Mercury Rule (R18-2-733 and R18-2-733.01) that incorporate and modify the now defunct cap-and-trade program and (ii) amend the emission limits in R18-2-734 to be consistent with the MACT standards. Amended R18-2-734 also serves as a backstop state program for mercury emissions in case the MACT standards, which are currently being challenged in federal court, are vacated or repealed.

The Clean Air Mercury Rule and the Arizona Mercury Rule. ADEQ adopted the Arizona Mercury Rule in 2006 in response to EPA's 2005 adoption of the Clean Air Mercury Rule (CAMR). 12 A.A.R. 4701 (Dec. 22, 2006).



CAMR imposed a cap-and-trade program under section 111(d) of the Clean Air Act that would have allowed individual EGUs to comply solely through the purchase of mercury emission allowances rather than the installation of controls.

In order to assure that coal-fired EGUs in Arizona would achieve actual reductions in mercury emissions, rather than simply purchasing sufficient allowances to cover their emissions, the Arizona Mercury Rule imposed a limit of “10 percent of inlet mercury or 0.0087 pound per gigawatt-hour [GWh], whichever is greater” (i.e., less stringent). A.A.C. R18-2-734(B).

The health and environmental concerns that lead to ADEQ’s adoption of state standards to supplement CAMR with state emission limits are summarized in the economic, small business and consumer impact statement in section 9 of the preamble.

Compliance with the Arizona Mercury Rule emission limits was to be determined on the basis of 12-month rolling averages measured through continuous monitoring performed in accordance with CAMR. Emissions averaging across all EGUs at a plant was expressly permitted. For existing EGUs, compliance was required for the 12-month average ending on December 31, 2013 and each subsequent 12-month period. A.A.C. R18-2-734(B), (C).

The Notice of Final Rulemaking (NFRM) for the Arizona Mercury Rule recognized that most EGUs in Arizona burn subbituminous coal and that the 90 percent reduction in mercury emissions effectively required by the rule could not be achieved without the installation of mercury-specific controls, such as ACI. 12 A.A.R. at 4703-04, 4708.

Subsection H of the Arizona Mercury Rule provides an exemption for a plant that (1) installs controls designed to achieve the rule’s limits in accordance with an ADEQ-approved control strategy, (2) is nevertheless unable to achieve compliance with the limits, (3) conducts an analysis of the “incremental best available control technology” and (4) obtains a permit revision imposing a new limit based on the results of that analysis.

The D.C. Circuit vacated CAMR on February 8, 2008. To address the uncertainties created by the vacatur, ADEQ and each of the owner/operators of the four Arizona coal-fired power plants subject to the state standard entered into consent orders that:

- Extended the deadline for compliance with the Arizona Mercury Rule from December 31, 2013 to December 31, 2016.
- Required a plan for interim reductions in mercury emissions of 50 or 70 percent, depending on the date they were implemented.

The consent orders anticipated that in response to the vacatur, EPA might promulgate a MACT standard under section 112(d) of the Clean Air Act. The orders stated that:

At the time that EPA promulgates a MACT Standard that addresses mercury emissions from [EGUs], ADEQ intends to propose amendments to A.A.C. R18-2-734 to ensure that the Arizona Mercury Rule is not incompatible with the MACT Standard.

The MATS Rule. EPA in fact promulgated MACT standards for mercury, as well as numerous other hazardous air pollutants emitted by EGUs, in the MATS rulemaking on February 16, 2012. 77 Fed. Reg. 9304 (2012). The MATS limits for mercury emissions from existing coal-fired EGUs burning bituminous and subbituminous coal are as follows:

<u>Averaging Period</u>	<u>Averaging Across Units Allowed?</u>	<u>Limit</u>
30 days, rolling daily	No	.013 lb/GWh
90 days, rolling daily	Yes	.011 lb/GWh

40 C.F.R. §§ 63.9991(a)(1), 63.10009(a)(2), 63.10021(b), Table 2. The MATS rule also expresses these limits in terms of weight per heat input (lb/TBtu).

Unlike the Arizona Mercury Rule, the MATS rule allows averaging across emissions units only in the case of the 90-day standard and then only if a number of conditions are satisfied. For example, a facility intending to use emissions averaging must prepare and submit an emissions averaging plan.



Existing EGUs are required to comply with the MATS rule by April 16, 2015. The MATS rule includes a separate, much more stringent limit for new EGUs. 78 Fed. Reg. 24073, 24075 (Apr. 24, 2013).

Because the Arizona Mercury Rule and the MATS rule use different averaging periods, a conversion is required to compare the two. EPA has provided a basis for making this conversion. In the course of developing the MATS, EPA conducted an analysis to “evaluate the impact of averaging time on variability and to ‘predict’ the UPL [upper predictive limit] value for different averaging times for the MACT floor facilities.” Memorandum from Stephen Boone, et al., RTI re The Impact of Emissions Averaging Time on the Stringency of an Emission Standard (Dec. 9, 2011). Referenced at 77 Fed. Reg. at 9385. On the basis of CEMS data from 23 EGUs, EPA calculated that the MACT floor emission limits for different averaging periods would be as follows:

Average Period (days)	Calculated UPL With Control CEMS Data (lb Hg/MMBtu)
30	1.32E-06
90	1.03E-06
360	7.60E-07

Thus, in order to convert a 360-day limit to a 30-day limit of equivalent stringency, one should multiply the 360-day limit by a ratio of 1.74 (1.32E-06/7.60E-07). The appropriate ratio for a 360-day to 90-day conversion is 1.36 (1.03E-06/7.60E-07).

If these ratios are used to convert Arizona’s 12-month lb/GWh standard to 30-day and 90-day equivalents and we compare the converted values to EPA’s standards, the results are as follows:

<u>Averaging Period</u>	<u>EPA Standard</u>	<u>Arizona Equivalent</u>
30 days	.013 lb/GWh	.015 lb/GWh (.0087×1.74)
90 days	.011 lb/GWh	.012 lb/GWh (.0087×1.36)

Thus, the Arizona Mercury Rule’s lb/GWh limit is equivalent to but somewhat less stringent than the MATS limits.

The Arizona Mercury Rule is less stringent than the MATS rule in additional ways:

- The Arizona Mercury Rule requires compliance determinations at the end of each month. The MATS rule requires daily compliance determinations.
- Unlike the MATS rule, the Arizona Mercury Rule allows compliance on the basis of a percentage reduction in mercury emissions as an alternative to the lb/GWh limit. If mercury concentrations in the inlet coal are sufficiently high, the percentage reduction standard could be significantly less stringent than the lb/GWh limit.
- The MATS rule does not include the Arizona Mercury Rule’s incremental BACT exemption or anything like it.
- The Arizona Mercury Rule automatically allows emissions averaging across all EGUs at a power plant. The MATS rule places a number of limits and conditions on emissions averaging.
- The MATS rule includes a separate, much more stringent limit for new EGUs.
- The MATS rule has an earlier compliance date (April 16, 2015) than the date (December 31, 2016) specified in the consent orders.

Litigation. Although the MATS rule is somewhat more stringent than the Arizona Mercury Rule, ADEQ is not repealing the state rule at this time. Numerous state and industrial parties filed petitions for review of MATS, including the mercury emission limits, in the United State Court of Appeals for the D.C. Circuit. The D.C. Circuit denied those petitions and upheld MATS in *White Stallion Energy Center v. EPA*, 748 F.3d 1222 (D.C. Cir. Apr. 15, 2014). On November 25, 2014, the Supreme Court granted a petition for certiorari challenging this decision. If ADEQ repealed the Arizona Mercury Rule and mercury emission limits in the MATS rule were vacated or repealed as a result of a decision by the Supreme Court, the state would be left with no limits on EGU emissions on mercury. ADEQ is therefore proposing to amend the Arizona Mercury Rule to serve as a backstop program in case the MATS



mercury emission limits are vacated or repealed.

Section by Section Explanation of Rules:

- R18-2-701 Amend definitions relating to mercury emissions from EGUs to be consistent with MATS rule. Repeal definitions that are no longer needed as a result of repeal of rules incorporating and modifying CAMR.
- R18-2-733 Repeal incorporation by reference of CAMR, which has been vacated and repealed.
- R18-2-733.01 Repeal provisions requiring owners and operators of EGUs to purchase additional mercury allowances in market established by CAMR under certain circumstances.
- R18-2-734 Amend state standards for mercury emissions to (i) incorporate MATS emission limits for mercury by reference; (ii) eliminate inconsistencies with the MATS rule, such as the incremental BACT provision; (iii) assure that interim emission reductions required by the consent orders remain in effect; (iv) establish procedures for the state rule to take effect if the MATS emission limits mercury are vacated or repealed; and (v) allow EGUs the option in that event to comply with the existing state limit or the MATS emission limits.

7. A reference to any study relevant to the rules that the agency reviewed and either relied on in its evaluation of or justification for the rules or did not rely on in its evaluation of or justification for the rules, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

ADEQ relied on the following studies in its evaluation and justification for the rules:

ADEQ, “Fact Sheet: Fish Consumption Advisories” (October 2012), <http://www.azdeq.gov/environ/water/assessment/download/fca.pdf>.

EPA, “Mercury Study Report to Congress Volume I: Executive Summary” (December 1997), <http://epa.gov/ttn/oarpg/t3/reports/volume1.pdf>.

EPA, “Regulatory Impact Analysis for the Final Mercury and Air Toxics Standards” (December 2011), <http://www.epa.gov/mats/pdfs/20111221MATSfinalRIA.pdf>.

8. A showing of good cause why the rules are necessary to promote a statewide interest if the rules will diminish a previous grant of authority of a political subdivision of this state:

Not applicable.

9. The economic, small business, and consumer impact:

The following discussion addresses each of the elements required for an economic, small business and consumer impact statement (ESBCIS) under A.R.S. § 41-1055.

An identification of the rulemaking.

The rulemaking addressed by this ESBCIS consists of the repeal of A.A.C. R18-2-733 and 733.01 and amendments to the state limits on mercury emissions from coal-fired electric generating units at A.A.C. R18-2-734. The purpose of the amendments is to assure that the state mercury standards are consistent with and no more stringent than the corresponding federal law addressing the same subject matter as required by A.R.S. § 49-104(A)(17) and to provide a backstop program that will take effect if the corresponding federal law (the federal mercury standards in 40 C.F.R. Part 63, Subpart UUUUU) is repealed by EPA or vacated by a court.

The amendments to the state mercury standards are described in greater detail in section 6 of this preamble. As discussed in section 6, the amendments to the standards will make them somewhat less stringent and therefore will impose no *new* costs or benefits as compared to the status quo. The following discussion of the costs and benefits of the rulemaking therefore reflects the costs and benefits of implementing the state mercury standards in Arizona, not the costs that would result from amending the standards.

In addition, the state standards will result in the imposition of costs and accrual of benefits only if EPA repeals or a federal court vacates the federal standards. Unless that contingency occurs, any costs and benefits associated with reducing mercury emissions at coal-fired electric generating units in Arizona will be the result of the federal, rather than the state, mercury standards.

As noted in section 6, the emission limits imposed by the state mercury standards are equivalent in stringency to the federal standards, although the state standards will allow some additional flexibility if the federal standards are vacated or repealed. The level of control required by, benefits derived from and costs imposed by the two standards are therefore comparable.

An identification of the persons who will be directly affected by, bear the costs of or directly benefit from the

**rulemaking.**

The persons who will be directly affected by and bear the costs of the rulemaking will be the owners and operators of coal-fired electric generating units producing more than 25 megawatts of electricity for sale in the State of Arizona. Specifically, the rule will apply to the following 13 electric generating units:

Operator	Plant	Number of Units
Arizona Electric Power Cooperative	Apache	2
Arizona Public Service Company	Cholla	4
Salt River Project	Coronado	2
Tucson Electric Power	Sundt	1
Tucson Electric Power	Springerville	4

A cost benefit analysis of the following:**(a) The probable costs and benefits to the implementing agency and other agencies directly affected by the implementation and enforcement of the rulemaking.**

ADEQ estimates that the current number of FTEs assigned in the Permits and Compliance sections are adequate to implement and enforce the mercury rule. The costs of the rule to the implementing agency will therefore be minimal. In addition, the cost of reviewing and approving the significant permit revisions that may be required by R18-2-734(E) will be covered by permit fees.

No other state agencies will be affected by the rulemaking.

(b) The probable costs and benefits to a political subdivision of this state directly affected by the implementation and enforcement of the rulemaking.

No political subdivision of the state operates a coal-fired electric generating unit.

By statute, ADEQ has original jurisdiction over all coal-fired power plants in the state. A.R.S. § 49-402(A)(4). Pima County, however, has received delegation to issue and enforce the air quality permit for the Sundt Generating Station in Tucson and therefore will have responsibility for enforcing the state mercury standards with respect to the coal-fired unit at that plant. As in the case of ADEQ, however, the costs of enforcing the standards are likely to be minimal and will in any case be recoverable through permit fees.

(c) The probable costs and benefits to businesses directly affected by the rulemaking, including any anticipated effect on the revenues or payroll expenditures of employers who are subject to the rulemaking.**Mercury exposure and health effects**

Mercury exists in the environment in three forms: elemental, inorganic and organic. Elemental mercury metal is a heavy, silvery white liquid at ambient temperatures and atmospheric pressures. Mercury metal vaporizes readily under ambient conditions. Inorganic mercury is found in two forms: mercurous (Hg⁺) and mercuric (Hg²⁺), which may exist as ions or in salts.

The form of mercury that is of greatest concern is organic mercury, primarily methylmercury. Methylmercury is a potent neurotoxin that can cause IQ deficits and other neurological abnormalities in infants and children through direct or fetal exposure. In addition, exposure to sufficient amounts of organic mercury can produce other serious health effects such as cardiovascular illness, immune system and reproductive problems and adverse impacts on the central nervous system, kidneys and liver, any of which can contribute to premature mortality. (EPA 2011 [RIA]; EPA 1997)

Inorganic mercury can be converted by bacteria or chemical processes into organic mercury, including methylmercury. Because organic mercury is not excreted as rapidly as it is taken in, it bioaccumulates. As bacteria, algae and plants contaminated with methylmercury are consumed by detritivores and herbivores, which are eaten by small carnivores, which are in turn eaten by larger carnivores, the mercury content of the organisms in each step up the food chain increases. Highest concentrations are found in large predatory fish, such as bass, walleye, albacore tuna, swordfish and sharks.

As noted in the 2006 Notice of Final Rulemaking for the existing state mercury standards, ADEQ had at that time issued fish consumption advisories for ten Arizona lakes found to contain fish with unacceptably high concentrations of mercury. 12 A.A.R. 4701, 4702. Since that time, ADEQ has issued mercury fish advisories for four additional water bodies: Lake Pleasant, Lake Powell, Roosevelt Lake and Tonto Creek. (ADEQ 2012)



Mercury contamination of aquatic ecosystems in Arizona arises from a wide variety of sources, including mining, pesticide use, global transport of power plant emissions and local emissions from coal-fired power plants.

Mercury emissions and controls

Coal-fired electric power plants are the single largest source of mercury emissions in the U.S., accounting for approximately half of anthropogenic air emissions. Mercury is present in coal used as the feedstock in boilers and on combustion is emitted in three forms: elemental, oxidized and as particulate matter. (EPA 2011)

Controls designed to reduce emissions of other pollutants may also control mercury emissions. Oxidized mercury is water soluble and can therefore be captured by a wet flue gas desulfurization (FGD) system. (FGDs are employed primarily to reduce SO₂ emissions.) Mercury emitted in particulate form is, of course, subject to control by particulate matter control devices, such as electrostatic precipitators (ESP) and fabric filters (FF). (EPA 2011)

Elemental mercury, however, is non-soluble and emitted as a vapor; it is therefore not captured by FGDs or particulate matter controls. Mercury emitted from the combustion of subbituminous coals, such as those typically burned in Arizona electric generating units, is primarily elemental in form. In order to achieve emission reductions comparable to those achieved at plants burning bituminous coals, which is required by both the state federal mercury standards, plants burning subbituminous coal must therefore employ additional control strategies. They may, for example, use selective catalytic reduction (SCR), which is a technology for reducing NO_x emissions, or the injection of halogens to oxidize the elemental mercury before it passes through a FGD system. Alternatively, they may inject activated carbon into the gas stream to adsorb the mercury before it passes through a particulate matter control device. (EPA 2011)

Arizona power plants burn mostly subbituminous coal and will probably have to employ one or more of these strategies to comply with either the state or federal mercury standards.

Costs of Control

The Arizona plants that will be subject to the state and federal mercury standards have not yet settled on a final control strategy. It is therefore not possible to provide an estimate of the actual costs that will be incurred in order to meet the standards.

In the ESBCIS for the original rulemaking adopting the state mercury standards, ADEQ estimated that capital costs for adding sorbent injection to an existing control system could range from \$750,000 to \$2.4 million and that operating costs could be expected to be from \$1.6 million to \$5.1 million, depending on the size of the plant. If the plant were required to install or upgrade particulate matter controls in order to capture the sorbent, capital costs would be much higher, on the order of tens of millions of dollars. 12 A.A.R. at 4709.

In the Regulatory Impact Analysis (RIA) for the MATS rulemaking, EPA estimated that the cost of compliance nationwide would be approximately \$9.6 billion and that this would amount to “less than a 3% increase in the cost to meet electricity demand.” This estimate was based on the cost to comply with all of the MATS requirements, including standards designed to reduce emissions of acid gas HAPs and heavy metals. The cost to comply solely with the federal mercury standards, and therefore the state mercury standards, would be substantially less. (EPA 2011)

Benefits

The specific benefits of mercury reductions are difficult to quantify. EPA estimated the benefit of avoiding the loss of IQ points through reductions in methylmercury exposure from self-caught fish at \$500,000 to \$6 million but was unable to monetize the other benefits expected from mercury emission reductions. (EPA 2011)

EPA nevertheless concluded that total health benefits from the MATS rulemaking would range from \$33 billion to \$90 billion. As noted above, effective control of mercury emissions requires the installation of controls that will also reduce emissions of PM_{2.5}, as well as SO₂ and NO_x, which are PM_{2.5} precursors. The MATS rulemaking will therefore produce substantial “co-benefits” in the form of reductions in PM_{2.5}-related mortality, and these reductions account for the “great majority” of the benefits attributable to the rule. 77 Fed. Reg. 9304, 9306 (Feb. 16, 2012).

Some of these co-benefits are attributable to the rule’s limitations on HAPs other than mercury, such as acid gases. In addition, Arizona coal-fired power plants are relatively well-controlled compared to plants elsewhere in the country. The co-benefits of the state mercury standards can therefore be expected to be proportionately less than EPA’s nationwide estimates.



Nevertheless, if EPA's estimates are accurate, and the benefits of MATS will outweigh the costs by a margin of 3 to 1 or better, it seems probable that the benefits of the state mercury standards will also outweigh the costs. The existence, noted above, of unquantifiable benefits from mercury reductions enhances this probability.

A general description of the probable impact on private and public employment in businesses, agencies and political subdivisions of this state directly affected by the rulemaking.

ADEQ believes that employment impacts will be minor. ADEQ anticipates a slightly higher demand for labor requirements for sources affected by this rulemaking, as well as increased labor requirements from the other classes of persons as discussed earlier.

ADEQ does not expect short- or long-run employment, production, or industrial growth in Arizona to be negatively impacted. Further, no sources are expected to close from the implementation of this rulemaking.

A statement of the probable impact of the rulemaking on small businesses.

(a) An identification of the small businesses subject to the rulemaking.

Under A.R.S. § 41-1001(21):

"Small business" means a concern, including its affiliates, which is [1] *independently owned and operated*, which is [2] *not dominant in its field* and which [3] *employs fewer than one hundred full-time employees or which had gross annual receipts of less than four million dollars in its last fiscal year.* (Emphasis added.)

The amended mercury rule will apply only to companies that own and operate large coal-fired power plants in the state. None of these companies qualifies as a small business.

(b) The administrative and other costs required for compliance with the rulemaking.

Not applicable.

(c) A description of the methods that the agency may use to reduce the impact on small businesses.

(i) Establishing less costly compliance requirements in the rulemaking for small businesses.

Not applicable.

(ii) Establishing less costly schedules or less stringent deadlines for compliance in the rulemaking.

Not applicable.

(iii) Exempting small businesses from any or all requirements of the rulemaking.

Not applicable.

(d) The probable cost and benefit to private persons and consumers who are directly affected by the rulemaking.

Not applicable.

A statement of the probable effect on state revenues.

Since any costs associated with the amendments will be recoverable through air quality permit fees, there will be no net effect on state revenues.

A description of any less intrusive or less costly alternative methods of achieving the purpose of the rulemaking.

ADEQ was not able to identify any less intrusive or costly alternative methods for achieving the rulemaking's purpose of providing a backstop program for control of mercury emissions from coal-fired power plants, in case the federal mercury standards are vacated or repealed.

10. A description of any changes between the proposed rulemaking, to include supplemental notices, and the final rulemaking:

Minor, non-substantive changes have been made between the proposed and the final rulemaking notices, at the request of the staff of the Governor's Regulatory Review Council.

11. An agency's summary of the public or stakeholder comments made about the rulemaking and the agency response to the comments:

ADEQ received no comments or testimony on the proposal.

12. All agencies shall list other matters prescribed by statute applicable to the specific agency or to any specific rule or class of rules. Additionally, an agency subject to Council review under A.R.S. §§ 41-1052 and 41-1055 shall respond to the following questions:

There are no other matters prescribed by statute applicable specifically to ADEQ or this specific rulemaking.

a. Whether the rule requires a permit, whether a general permit is used and if not, the reasons why a general



permit is not used:

If the MATS is repealed or vacated, the rule requires affected electric generating plants to obtain a permit revision identifying how the plants will comply with the state backstop program. The permit revision will be site-specific and is therefore not suitable for issuance as a general permit.

b. Whether a federal law is applicable to the subject of the rule, whether the rule is more stringent than federal law and if so, citation to the statutory authority to exceed the requirements of federal law:

The federal Clean Air Act and implementing regulations adopted by EPA apply to the subject of this rule, as described in item 6 above. As discussed in item 6, the rule is no more stringent than required by federal law.

c. Whether a person submitted an analysis to the agency that compares the rule's impact of the competitiveness of business in this state to the impact on business in other states:?

No such analysis was submitted.

13. A list of any incorporated by reference material as specified in A.R.S. § 41-1028 and its location in the rules:
40 C.F.R. Part 63, Subpart UUUUU R18-2-734

14. The full text of the rules follows:

TITLE 18. ENVIRONMENTAL QUALITY

**CHAPTER 2. DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR POLLUTION CONTROL**

ARTICLE 7. EXISTING STATIONARY SOURCE PERFORMANCE STANDARDS

Section

- R18-2-701. Definitions
- R18-2-733. ~~Incorporation of Federal Standards of Performance for Mercury Emissions from Coal-Fired Electric Steam Generating Units Repealed~~
- R18-2-733.01. ~~Additional Mercury Allowance Acquisition Requirements for Coal-Fired Electric Steam Generating Units Repealed~~
- R18-2-734. ~~State Standards of Performance for Mercury Emissions from Coal-Fired Electric Steam Generating Units~~

ARTICLE 7. EXISTING STATIONARY SOURCE PERFORMANCE STANDARDS

R18-2-701. Definitions

For purposes of this Article:

1. "Acid mist" means sulfuric acid mist as measured in the Arizona Testing Manual and 40 CFR 60, Appendix A.
2. "Architectural coating" means a coating used commercially or industrially for residential, commercial or industrial buildings and their appurtenances, structural steel, and other fabrications such as storage tanks, bridges, beams and girders.
3. "Asphalt concrete plant" means any facility used to manufacture asphalt concrete by heating and drying aggregate and mixing with asphalt cements. This is limited to facilities, including drum dryer plants that introduce asphalt into the dryer, which employ two or more of the following processes:
 - a. A dryer.
 - b. Systems for screening, handling, storing, and weighing hot aggregate.
 - c. Systems for loading, transferring, and storing mineral filler.
 - d. Systems for mixing asphalt concrete.
 - e. The loading, transferring, and storage systems associated with emission control systems.
4. "Black liquor" means waste liquor from the brown stock washer and spent cooking liquor which have been concentrated in the multiple-effect evaporator system.
5. ~~"Boiler" means an enclosed fossil or other fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.~~
6. ~~"Bottoming cycle cogeneration unit" means a cogeneration unit in which the energy input to the unit is first used to produce useful thermal energy and at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.~~
75. "Calcine" means the solid materials produced by a lime plant.
86. "Coal" means any solid fuel classified as anthracite, bituminous, subbituminous, or lignite by the ASTM Method D388-05 "Standard Specification for Classification of Coals by Rank," D388-77, 90, 91, 95, or 98a and coal refuse. Synthetic fuels derived from coal for the purpose of creating useful heat including but not limited to, coal derived gases (not meeting the definition of natural gas), solvent-refined coal, coal-oil mixtures, and coal-water mixtures, are considered "coal" for the purposes of this subpart.



9. “Coal-derived fuel” means any fuel (whether in a solid, liquid, or gaseous state) produced by the mechanical, thermal or chemical processing of coal.
10. “Coal-fired” means combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during any year.
7. “Coal refuse” means any by-product of coal mining, physical coal cleaning, and coal preparation operations (e.g., culm, gob, etc.) containing coal, matrix material, clay, and other organic and inorganic material with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (6,000 Btu per pound) on a dry basis.
11. “Cogeneration unit” means a stationary coal-fired boiler or stationary coal-fired combustion turbine:
- a. Having equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy; and
 - b. Producing during the 12-month period starting on the date the unit first produces electricity and during any calendar year after which the unit first produces electricity:
 - i. For a topping-cycle cogeneration unit: useful thermal energy not less than 5% of total energy output; and useful power that, when added to one-half of useful thermal energy produced, is not less than 42.5% of total energy input, if useful thermal energy produced is 15% or more of total energy output, or not less than 45% of total energy input, if useful thermal energy produced is less than 15% of total energy output; and
 - ii. For a bottoming-cycle cogeneration unit, useful power not less than 45% of total energy input.
12. “Combustion turbine” means:
- a. An enclosed device comprising a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and
 - b. If the enclosed device under subsection (12)(a) is combined cycle, any associated heat recovery steam generator and steam turbine.
13. “Commercial operation” means the time when the owner or operator supplies electricity for sale or use, including test generation.
148. “Concentrate” means enriched copper ore recovered from the froth flotation process.
159. “Concentrate dryer” means any facility in which a copper sulfide ore concentrate charge is heated in the presence of air to eliminate a portion of the moisture from the charge, provided less than 5% of the sulfur contained in the charge is eliminated in the facility.
1610. “Concentrate roaster” means any facility in which a copper sulfide ore concentrate is heated in the presence of air to eliminate 5% or more of the sulfur contained in the charge.
1711. “Condensate stripper system” means a column, and associated condensers, used to strip, with air or steam, TRS compounds from condensate streams from various processes within a kraft pulp mill.
1812. “Control device” means the air pollution control equipment used to remove particulate matter or gases generated by a process source from the effluent gas stream.
1913. “Converter” means any vessel to which copper matte is charged and oxidized to copper.
2014. “Electric generating plant” means all electric generating units located at a stationary source.
2115. “Electric generating unit” means: a combustion unit of more than 25 megawatts electric that serves a generator that produces electricity for sale and that burns coal for more than 10.0 percent of the average annual heat input during any three consecutive calendar years or for more than 15.0 percent of the annual heat input during any one calendar year. A unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electric output to any utility power distribution system for sale is considered an electric generating unit.
- a. A stationary, coal-fired boiler or stationary coal-fired combustion turbine, other than a boiler or turbine that qualifies as a cogeneration unit, serving at any time since the start-up of a unit’s combustion chamber a generator with nameplate capacity of more than 25 megawatts electric producing electricity for sale. If a unit qualifies as a cogeneration unit during the 12-month period starting the date the unit first produces electricity but subsequently no longer qualifies as a cogeneration unit, the unit shall be an electric generating unit on the day which the unit no longer qualifies as a cogeneration unit.
 - b. A cogeneration unit serving at any time a generator with nameplate capacity of more than 25 megawatts and supplying in any calendar year more than one-third of the unit’s potential electric output capacity or 219,000 megawatt-hours, whichever is greater, to any utility power distribution system for sale.
22. “Existing electric generating plant” means all electric generating units located at a stationary source during a control period other than units that have not been allocated allowances to emit mercury pursuant to 40 CFR 60.4142(b) for that control period.
2316. “Existing source” means any source which does not have an applicable new source performance standard under Article 9 of this Chapter.
2417. “Facility” means an identifiable piece of stationary process equipment along with all associated air pollution equipment.



18. "Federal mercury standards" means the emissions limits, monitoring, testing, recordkeeping, reporting and notification requirements applicable or relating to emissions of mercury from electric generating units under 40 CFR Part 63, Subpart UUUUU.
2519. "Fugitive dust" means fugitive emissions of particulate matter.
2620. "High sulfur oil" means fuel oil containing 0.90% or more by weight of sulfur.
27. ~~"Incremental best available control technology" means an emission limitation based on the maximum degree of additional reductions, if any, in mercury beyond those achieved by existing controls installed under R18-2-724(F), taking into account incremental energy, environmental, and economic impacts, market prices of mercury allowances, balance of plant impacts, and other incremental costs, determined by the Director to be achievable and to be compatible with existing control technology installed at the electric generating unit. Incremental best available control technology shall be determined on a case-by-case basis and shall not be more stringent than the limits in R18-2-734(B).~~
2821. "Inlet mercury" means the average concentration of mercury in the coal burned at an electric generating unit, as determined by ASTM methods, EPA-approved methods or alternative methods approved by the Director.
2922. "Lime kiln" means a unit used to calcinate lime rock or kraft pulp mill lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide.
3023. "Low sulfur oil" means fuel oil containing less than 0.90% by weight of sulfur.
3124. "Matte" means a metallic sulfide made by smelting copper sulfide ore concentrate or the roasted product of copper sulfide ores.
3225. "Mercury" means mercury or mercury compounds in either a gaseous or particulate form.
3326. "Miscellaneous metal parts and products" for purposes of industrial coating include all of the following:
- Large farm machinery, such as harvesting, fertilizing and planting machines, tractors, and combines;
 - "Small farm machinery, such as lawn and garden tractors, lawn mowers, and rototillers;
 - Small appliances, such as fans, mixers, blenders, crock pots, dehumidifiers, and vacuum cleaners;
 - Commercial machinery, such as office equipment, computers and auxiliary equipment, typewriters, calculators, and vending machines;
 - Industrial machinery, such as pumps, compressors, conveyor components, fans, blowers, and transformers;
 - Fabricated metal products, such as metal-covered doors and frames;
 - Any other industrial category which coats metal parts or products under the Code in the "Standard Industrial Classification Manual, 1987" of Major Group 33 (primary metal industries), Major Group 34 (fabricated metal products), Major Group 35 (non-electric machinery), Major Group 36 (electrical machinery), Major Group 37 (transportation equipment), Major Group 38 (miscellaneous instruments), and Major Group 39 (miscellaneous manufacturing industries), except all of the following:
 - Automobiles and light-duty trucks;
 - Metal cans;
 - Flat metal sheets and strips in the form of rolls or coils;
 - Magnet wire for use in electrical machinery;
 - Metal furniture;
 - Large appliances;
 - Exterior of airplanes;
 - Automobile refinishing;
 - Customized top coating of automobiles and trucks, if production is less than 35 vehicles per day;
 - Exterior of marine vessels.
3427. "Multiple-effect evaporator system" means the multiple-effect evaporators and associated condenser and hotwell used to concentrate the spent cooking liquid that is separated from the pulp.
35. ~~"Nameplate capacity" means, starting from the initial installation of a generator, the maximum electrical generating output (in megawatts) that an electric generating unit is capable of producing on a steady-state basis during continuous operation as specified by the manufacturer.~~
3628. "Neutral sulfite semichemical pulping" means any operation in which pulp is produced from wood by cooking or digesting wood chips in a solution of sodium sulfite and sodium bicarbonate, followed by mechanical defibrating or grinding.
3729. "Petroleum liquids" means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery but does not mean Number 2 through Number 6 fuel oils as specified in ASTM D396-90a (Specification for Fuel Oils), gas turbine fuel oils Numbers 2-GT through 4-GT as specified in ASTM D2880-90a (Specification for Gas Turbine Fuel Oils), or diesel fuel oils Numbers 2-D and 4-D as specified in ASTM D975-90 (Specification for Diesel Fuel Oils).
3830. "Potential electric output capacity" means 33% of a unit's maximum design heat input, divided by 3,413 Btu per kilowatt-hour, divided by 1,000 kilowatt-hours/per megawatt-hour, and multiplied by 8,760 hours per year.
3931. "Process source" means the last operation or process which produces an air contaminant resulting from either:
- The separation of the air contaminants from the process material, or



- b. The conversion of constituents of the process materials into air contaminants which is not an air pollution abatement operation.
- 4032. "Process weight" means the total weight of all materials introduced into a process source, including fuels, where these contribute to pollution generated by the process.
- 4133. "Process weight rate" means a rate established pursuant to R18-2-702(E).
- 4234. "Recovery furnace" means the unit, including the direct-contact evaporator for a conventional furnace, used for burning black liquor to recover chemicals consisting primarily of sodium carbonate and sodium sulfide.
- 4335. "Reid vapor pressure" means the absolute vapor pressure of volatile crude oil and volatile non-viscous petroleum liquids, except liquified petroleum gases, as determined by ASTM D-323-90 (Test Method for Vapor Pressure of Petroleum Products) (Reid Method).
- 4436. "Reveratory smelting furnace" means any vessel in which the smelting of copper sulfide ore concentrates or calcines is performed and in which the heat necessary for smelting is provided primarily by combustion of a fossil fuel.
- 4537. "Rotary lime kiln" means a unit with an included rotary drum which is used to produce a lime product from limestone by calcination.
- 4638. "Slag" means fused and vitrified matter separated during the reduction of a metal from its ore.
- 4739. "Smelt dissolving tank" means a vessel used for dissolving the smelt collected from the kraft mill recovery furnace.
- 4840. "Smelter feed" means all materials utilized in the operation of a copper smelter, including metals or concentrates, fuels and chemical reagents, calculated as the aggregate sulfur content of all fuels and other feed materials whose products of combustion and gaseous by-products are emitted to the atmosphere.
- 4941. "Smelting" means processing techniques for the smelting of a copper sulfide ore concentrate or calcine charge leading to the formation of separate layers of molten slag, molten copper, or copper matte.
- 5042. "Smelting furnace" means any vessel in which the smelting of copper sulfide ore concentrates or calcines is performed and in which the heat necessary for smelting is provided by an electric current, rapid oxidation of a portion of the sulfur contained in the concentrate as it passes through an oxidizing atmosphere, or the combustion of a fossil fuel.
- 5143. "Standard conditions" means a temperature of 293K (68°F or 20°C) and a pressure of 101.3 kilopascals (29.92 in. Hg or 1013.25 mb).
- 5244. "Supplementary control system" (SCS) means a system by which sulfur dioxide emissions are curtailed during periods when meteorological conditions conducive to ground-level concentrations in excess of ambient air quality standards for sulfur dioxide either exist or are anticipated.
- 53. ~~"Topping cycle cogeneration unit" means a cogeneration unit in which the energy input to the unit is first used to produce useful power, including electricity, and at least some of the reject heat from the electricity production is then used to provide useful thermal energy.~~
- 54. ~~"Total energy output" means, with regard to a cogeneration unit, the sum of useful power and useful thermal energy produced by the cogeneration unit.~~
- 5545. "Vapor pressure" means the pressure exerted by the gaseous form of a substance in equilibrium with its liquid or solid form.

R18-2-733. ~~Incorporation of Federal Standards of Performance for Mercury Emissions from Coal-Fired Electric Steam-Generating Units Repealed~~

- ~~A. The provisions of 40 CFR §§ 60.4101-4176, subpart HHHH, Emission Guidelines and Compliance Times for Coal-Fired Electric Steam-Generating Units, as of July 1, 2006 (and no future amendments or editions) are incorporated by reference, as modified by subsection (B), and are on file with the Department. The definitions of terms in 40 CFR § 60.4102 shall apply to this Section.~~
- ~~B. The introductory language preceding paragraph (1) in subsection 60.4142(e) is replaced with the following: "For each control period in 2010 and thereafter, the permitting authority shall allocate Hg allowances to Hg Budget units in the state that commenced operation on or after January 1, 2001, and that have not been allocated allowances for that control period pursuant to § 60.4141(b) in accordance with the following:"~~

R18-2-733.01. ~~Additional Mercury Allowance Acquisition Requirements for Coal-Fired Electric Steam-Generating Units Repealed~~

- ~~A. The provisions of 40 CFR §§ 60.4102, 60.4154 and 60.4160, as of July 1, 2006 (and no future amendments or editions) are incorporated by reference and on file with the Department. When the same term is defined in R18-2-701 and in 40 CFR § 60.4102, the definition of the term in 40 CFR § 60.4102 shall apply to this Section. The following additional definitions shall apply to this Section:~~
 - ~~1. "Annual allocated allowances" for a control period means the number of allowances allocated to all electric generating units at an existing electric generating plant for the control period.~~
 - ~~2. "Banked allocated allowances" for a control period means the amount, if any, by which the total allocated allowances for an existing electric generating plant for the immediately preceding control period exceeded the total Hg emissions in ounces per year from the plant for the immediately preceding control period.~~



3. "Compliant emission level" means the amount of Hg that an electric generating plant would have emitted if it were in compliance with the emission standard in R18-2-734(B) without regard to whether the plant qualifies for an exemption under R18-2-734(G) and (H).
 4. "Total allocated allowances" for a control period means the sum of the annual allocated allowances for the control period and the banked allocated allowances for the control period.
- B.** Beginning with the allowance transfer deadline in 2014, the owner or operator of an existing electric generating plant must hold in its compliance account on the allowance transfer deadline allowances equal to the following:
1. Hg emissions for the preceding control period; and
 2. Twice the amount, if any, by which emissions for the preceding control period exceed the greater of the total allocated allowances or the compliant emission level for the preceding control period.
- C.** Beginning in the control period for 2013, the owner or operator of an existing electric generating plant shall transfer to the Department's general account in accordance with 40 CFR § 60.4160 allowances equal to the amount, if any, by which total Hg emissions from the plant during the control period exceed the greater of the total allocated allowances or the compliant emission level.
- D.** The owner or operator of an existing electric steam generating plant shall complete the transfer required by subsection (C) within 30 days after the Administrator deducts all allowances required to be deducted by 40 CFR § 60.4154 for the control period.
- E.** Allowances held in the Department's general account under subsection (C) are not available for transfer.
- F.** For purposes of determining compliance with subsections (B) and (C), the Department shall treat allowances as being deducted from the compliance account for an existing plant in the order prescribed by 40 CFR § 60.4154(e)(2), regardless of any instructions provided to the Administrator under 40 CFR § 60.4154(e)(1).

R18-2-734. State Standards of Performance for Mercury Emissions from ~~Coal-Fired~~ Electric Steam Generating Units

- A. Applicability and Purpose.** The requirements of this Section apply to owners and operators of electric generating units. The purpose of this Section is to establish:
1. Interim standards for mercury emissions from electric generating units that shall apply until compliance with the emissions limits in the federal mercury standards is required.
 2. State standards for mercury emissions from electric generating units that shall apply if the federal mercury standards are vacated by a federal court or repealed by the administrator.
- B. Interim Standards.** The following requirements shall apply until the date that compliance with the federal mercury standards or subsection (G) is required:
1. The owners and operators shall comply with the mercury control strategy operations and maintenance plan approved as part of the permit for the electric generating plant.
 2. The owners and operators shall operate and maintain the electric generating plant, including any associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing mercury emissions. This requirement shall apply to any air pollution control equipment installed pursuant to paragraph (B)(1) or to any new air pollution control equipment installed to comply with the federal mercury standards if such equipment replaces equipment installed pursuant to paragraph (B)(1).
- C. Incorporation of Federal Mercury Standards.** The federal mercury standards in 40 CFR Part 63, Subpart UUUUU, as of July 1, 2013 (and no future amendments or editions) are incorporated by reference and shall remain effective to the extent specified in this Section regardless of whether they are vacated by a federal court or repealed by the administrator. Subpart UUUU of 40 C.F.R. Part 63 is published by the United States Government Printing Office, 732 North Capitol Street, NW, Washington, DC 20401-0001, is on file with the Department of Environmental Quality, 1110 West Washington Street, Phoenix, Arizona 85007, and is available at the Arizona State Library, Archives & Public Records, 1700 West Washington Street, Phoenix, Arizona 85007 and at other Federal depository libraries in the state (see http://catalog.gpo.gov/fdlpdir/FDLPdir.jsp?st_12=AZ&flag=searchp). It is also available online at <http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR>. The owners and operators shall provide to the director a copy of all notices and reports submitted to the Administrator under the federal mercury standards, except for any reports or data submitted to the Administrator through electronic systems (for example, Compliance and Emissions Data Reporting Interface (CEDRI), Emission Collection Monitoring Plan System Client Tool (ECMPS) or the Emissions Reporting Tool (ERT)).
- D. Notice of State Standard Applicability.** The director shall provide notice to the responsible official for each electric generating plant of any repeal or federal court vacatur of the federal mercury standards. If the repeal or vacatur occurred after the date the electric generating plant was required to comply with the emission limits in the federal mercury standards, the plant shall continue to comply with the federal mercury standards until the date that compliance with subsection (G) is required.
- E. Application for Permit Revision.** Within 120 days of receipt of written notice from the director under subsection (D), the owners and operators shall submit an application for a permit revision that proposes:
1. The mercury emission limit or limits in subsection (G) that shall apply to the electric generating plant.
 2. A date for demonstrating compliance with the mercury emission limit consistent with subsection (F)(2).
 3. A mercury monitoring plan consistent with subsection (H)(2).
- F. Permit Revision Setting State Standard.** A permit revision granted in response to the application submitted under subsection (E) shall contain the following conditions:



1. The mercury emission limit or limits in subsection (G) that shall apply to the electric generating plant.
 2. The date compliance with the emission limit or limits shall be required. Unless the application requests an earlier date, the compliance date shall be the later of December 31, 2016 or the end of the first averaging period commencing no later than 180 days after permit issuance.
 3. The date for demonstrating initial compliance with the emission limit or limits, which shall be 45 days after completion of the first full averaging period after the compliance date established under subsection (F)(2).
 4. The date on which compliance with subsection (B), or the obligation to comply with the federal mercury standards in subsection (D), as applicable, shall no longer be required.
 5. A mercury monitoring plan consistent with subsection (H).
 6. Compliance reporting requirements consistent with subsection (I).
- G. State Mercury Emission Limits.** Emissions from an electric generating unit shall comply with one or more of the emission limits specified in the following table, as selected by the owners and operators under subsection (F).

<u>No.</u>	<u>Limit</u>	<u>Averaging Period</u>	<u>Applicable To</u>
<u>1.</u>	<u>10 percent of inlet mercury</u>	<u>Rolling 12-month</u>	<u>Electric generating plant</u>
<u>2.</u>	<u>0.0087 pounds per gigawatt-hour</u>	<u>Rolling 12-month</u>	<u>Electric generating plant</u>
<u>3.</u>	<u>0.011 pounds per gigawatt-hour</u>	<u>Rolling 90-boiler operating days</u>	<u>EGUs identified in averaging group</u>
<u>4.</u>	<u>1.0 pounds per Trillion Btu</u>	<u>Rolling 90-boiler operating days</u>	<u>EGUs identified in averaging group</u>
<u>5.</u>	<u>0.013 pounds per gigawatt-hour</u>	<u>Rolling 30-boiler operating days</u>	<u>Individual electric generating unit</u>
<u>6.</u>	<u>1.2 pounds per Trillion Btu</u>	<u>Rolling 30-boiler operating days</u>	<u>Individual electric generating unit</u>

- H. Compliance Monitoring and Recordkeeping.**
1. Compliance with subsection (G) shall be determined using a mercury CEMS or sorbent trap monitoring system pursuant to Appendix A of the federal mercury standards and in accordance with an approved mercury monitoring plan.
 2. The mercury monitoring plan shall include the following elements:
 - a. Identification of the emission limit or limits in subsection (G) for which compliance will be demonstrated.
 - b. Identification of whether a mercury CEMS or sorbent trap monitoring system will be used as the primary compliance method. Backup methods may be identified and approved in the plan.
 - c. Description of the parameters that will be monitored, including mercury concentration, stack flow, fuel mercury content, fuel rate, electricity generation rate, moisture percent, and any diluent or other gas or process parameters necessary to calculate compliance in terms of the applicable emission limit.
 - d. Description and example of the calculations required to convert monitored parameters to mercury emissions in terms of the emission limit.
 - e. Establishment of CEMS analyzer data availability, and QA/QC requirements.
 - f. Procedures for completing an initial demonstration of compliance, except as otherwise provided in subsection (I)(1).
 2. At least once per month, the mercury emissions data shall be compiled into a record demonstrating compliance with the emission limit or limits established in the permit revision issued under subsection (F). This record shall be completed no later than the 15th day of the following month.
 3. Records shall be maintained as follows:
 - a. Records demonstrating compliance with the emissions limits shall be maintained for five years.
 - b. If a mercury CEMS is used, daily CEMS data, QA/QC data identified in the mercury monitoring plan, any maintenance work conducted on the CEMS or data logging system, and a calculation of all mercury CEMS downtime shall be maintained for five years.
 - c. If a sorbent trap monitoring system is used, all sorbent monitoring data and any maintenance work conducted on the system shall be maintained for five years.
- I. Reporting.** The owners and operators shall submit to the director the following reports:
1. An initial demonstration of compliance, which must be submitted to the director within 180 days after completion of the first full averaging period. This requirement shall not apply to an electric generating unit if an initial demonstration of compliance has been completed for that unit under 40 C.F.R. 63.10005(d)(3) and the demonstration shows compliance with subsection (G) for that unit. The report shall include:
 - a. The name of the electric generating plant and electric generating units.
 - b. The applicable emission limit or limits for the plant or the electric generating units.
 - c. The mercury emissions for the plant, group of averaged units, or each unit, as applicable, during the initial compliance demonstration in terms of the applicable standard.



- d. A certification by a responsible official.
2. Semiannual compliance reports, which must be submitted to the director on the dates established in the electric generating plant's air quality permit. The report shall include:
 - a. The name of the electric generating plant and electric generating units;
 - b. The applicable emission limit or limits for the plant or the electric generating units.
 - c. The mercury emissions for the plant, or each unit, as applicable, for each month during the six month period ending the month prior to the semiannual report in terms of the applicable standard.
 - d. An explanation of any excess emissions, the duration of the excess emissions, and corrective actions taken, if any, to resolve those excess emissions.
 - e. A certification by a responsible official.
- J.** Exemption. After receipt of notice under subsection (D), in lieu of submitting the permit revision application required by subsection (E), the owners and operators may notify the director in writing that they elect to comply with the vacated or repealed federal mercury standards at an electric generating plant. If the owners and operators for an electric generating plant make this election, the plant shall be exempt from subsections (E) through (I). If the owners and operators of an electric plant elect this option:
 1. "Administrator" shall mean "Director" whenever it appears in the federal mercury standards or regulations referenced therein.
 2. "EPA" shall mean "ADEQ, Air Quality Division" whenever it appears in the federal mercury standards or regulations referenced therein.
 3. In lieu of reports submitted to the Administrator through electronic systems (for example, Compliance and Emissions Data Reporting Interface (CEDRI), Emission Collection Monitoring Plan System Client Tool (ECMPS) or Emissions Reporting Tool (ERT)) pursuant to the federal mercury standards, the owners or operators shall submit to the Director, semiannually at the time required by permit, the RATA or the rolling 30-day or rolling 90-day average mercury value for each EGU or the plant, as applicable.
- B.** Except as provided in subsections (G) and (H), rolling 12-month average mercury emissions from an electric generating plant shall not exceed 10 percent of inlet mercury or 0.0087 pound per gigawatt-hour, whichever is greater. Mercury emissions from an electric generating unit, when averaged with emissions from other electric generating units at the same electric generating plant, shall comply with this limit for the 12 calendar months ending on the later of the following, and each subsequent 12-calendar month period:
 1. December 31, 2013-2016; or
 2. Twelve full-calendar months after the electric generating unit starts commercial operation.
- C.** The Director shall determine compliance with the emission standards in subsection (B), the emission level established under subsection (H)(7), and the emission limit established under subsection (I) according to the method set forth at 40 CFR § 60.50a(h), as of July 1, 2006 (and no future amendments or editions), which is incorporated by reference and on file with the Department.
- D.** The owner or operator of an electric generating plant subject to this Section shall measure, record, and report the mercury in the exhaust gases according to 40 CFR §§ 60.49a(p), 60.4170-60.4176, and 40 CFR Part 75, Subpart I, as of July 1, 2006 (and no future amendments or editions), which are incorporated by reference and on file with the Department.
- E.** By January 1, 2008, the owner or operator of an electric generating plant that commenced construction before that date shall submit an application for a significant permit revision under R18-2-320 to incorporate the monitoring, recordkeeping and reporting requirements of subsections (C) and (D) into the plant's permit.
- F.** By January 1, 2009, the owner or operator of an electric generating plant that commenced construction before that date shall submit an application for a significant permit revision under R18-2-320 to incorporate the emission standards in subsection (B) into the plant's permit. The application shall include a control strategy for meeting the emission standards and a demonstration that the control strategy is projected to meet the standards.
- G.** An electric generating plant shall be exempt from the standard in subsection (B) until November 30, 2014, if:
 1. The owner or operator of the electric generating plant installs and operates control technology or boiler technology or follows practices projected to meet the standard in subsection (B) according to the control strategy approved as part of the electric generating plant's permit;
 2. The owner or operator operates and maintains the electric generating plant, including any associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing mercury emissions;
 3. The control strategy fails to result in emissions meeting the standard in subsection (B);
 4. By January 31, 2014, the owner or operator notifies the Department of the failure to comply with subsection (B) and of the owner or operator's intent to qualify for an exemption under this subsection or subsection (H); and
 5. Emissions of mercury from the electric generating plant comply with subsection (B) by no later than December 31, 2014.
- H.** An electric generating plant shall be exempt from the standard in subsection (B) if:
 1. The owner or operator of the electric generating plant installs and operates control technology or boiler technology or follows practices projected to meet the standard in subsection (B) according to the control strategy approved as part of the electric generating plant's permit;



2. The owner or operator operates and maintains the electric generating plant, including any associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing mercury emissions;
 3. The control strategy fails to result in emissions meeting the standard in subsection (B);
 4. By January 31, 2014, the owner or operator notifies the Department of the failure to comply with subsection (B) and of the owner or operator's intent to qualify for an exemption under this subsection or subsection (G); and
 5. By December 31, 2014, the owner or operator files an application for a significant permit revision containing an analysis of the incremental best available control technology;
 6. The Department does not deny the application for a permit revision filed under subsection (5); and
 7. From January 1, 2014, until the end of the 35th full calendar month after the Department issues a permit revision under subsection (I), rolling 12-month mercury emissions from the electric generating plant do not exceed the greater of the following amounts as measured for the plant during calendar year 2013:
 - a. The percentage of inlet mercury actually emitted minus 10 percent of the percentage control achieved; or
 - b. Actual mercury emissions in pounds per gigawatt-hour plus 10 percent.
- I.** A permit revision issued in response to an application submitted under subsection (H)(5) shall impose incremental best available control technology. Beginning at the end of the 36th full calendar month after the Department issues a permit revision under this subsection, rolling 12-month mercury emissions from the electric generating plant shall not exceed the emission limit imposed under this subsection.
- J.** After December 31, 2015, any best available control technology analysis for a new electric generating unit conducted under R18-2-406 shall consider alternative technologies for combustion of coal and coal-derived fuels. This subsection does not diminish the Department's authority under R18-2-406.